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(54) Title: THERMAL INTERCONNECT AND INTERFACE SYSTEMS, METHODS OF PRODUCTION AND USES THEREOF

(57) Abstract: Layered thermal components described herein include at least one thermal interface component and at least one heat spreader component coupled to the thermal interface component. A method of forming layered thermal components disclosed herein comprises: a) providing at least one thermal interface component; b) providing at least one heat spreader component; and c) physically coupling the at least one thermal interface component and the at least one heat spreader component. At least one additional layer, including a substrate layer, can be coupled to the layered thermal component. A method for forming the thermal interface components disclosed herein comprises a) providing at least one saturated rubber compound, b) providing at least one amine resin, c) crosslinking the at least one saturated rubber compound and the at least one amine resin to form a crosslinked rubber-resin mixture, d) adding at least one thermally conductive filler to the crosslinked rubber-resin mixture, and e) adding a wetting agent to the crosslinked rubber-resin mixture. This method can also further comprise adding at least one phase change material to the thermal interface component. A suitable interface material can also be produced that comprises at least one solder material. Additionally, a suitable interface material can be produced that comprises at least one solder material and at least one resin component.